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ECONOMIC INDICATORS

NEIGHBOR ISLAND PROFILES

MAUI COUNTY IN 1984

The County of Maui experienced a year of unprecedented economic expansion in 1984. Without doubt, the visitor industry was the major force behind the rapid growth. The county visitor count for 1984 should reach two million for the first time, or be very close to that figure. And visitor expenditures could approach $1 billion if not surpass it for the first time.

Added to this surge in tourism are generally excellent results in sugar, pineapple, and diversified agriculture. Sugar production was helped tremendously by the dry conditions, but probably at the expense of another good crop in 1985. Although sugar yield is helped by dry harvesting conditions, growing cane needs a lot of water.

The drought had an adverse impact on diversified agriculture, but production this year should surpass that of 1983. The spotted wilt virus has been discovered on Maui. As it could devastate whole fields of crops, Maui farmers are deeply concerned. A happier note from Kula is that farmers have begun to organize into commodity groups to increase their efficiency in marketing.

Construction is the one sector that is lagging the rest of the county economy, due to the strike called by the construction trade unions. With many projects ready for construction, the high cost of funds and difficulty in securing financing have also stalled the industry.

Maui County's exceptional economic performance this year is confirmed by several indicators. Gross Business Receipts, the broadest measure of economic activity and a scorecard for total business transactions in the economy, is running ahead of 1983 by 16.2 percent (see Figure 1). The annualized figure, based on monthly totals for the first nine months, shows the year's receipts reaching $1.6 billion, up from $1.4 billion for 1983.

State tax collections, annualized using first nine-month figures, were ahead by 9.7 percent to $74.9 million (see Figure 2). The rate of unemployment for the same period was down to 6.9 percent compared to 7.9 percent in 1983 (see Figure 3). Westbound visitor arrivals for the county will likely surpass 1.9 million. With eastbound figures added, the total could well reach two million (see Figure 4).

FIGURE 1
GROSS BUSINESS RECEIPTS
MAUI COUNTY
1970-1984*

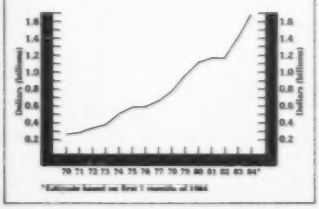
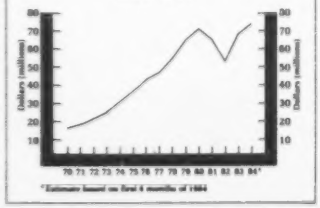


FIGURE 2
COUNTY TAX COLLECTIONS
MAUI COUNTY
1970-1984*



The Maui visitor market no doubt is being aided by the direct flights from the Mainland, which got into full swing this year. United Airlines has five direct flights to Maui from the Mainland. American Airlines will inaugurate its direct-to-Maui service on December 15. Delta Air Lines has also announced that after it starts its Dallas-to-Honolulu direct route on December 14, it will look into a direct route to Maui.

FIGURE 3
UNEMPLOYMENT RATE
MAUI COUNTY
1970-1984*

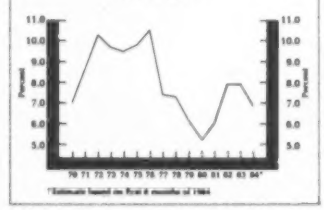
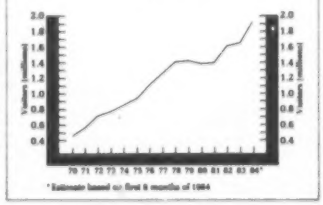


FIGURE 4
WESTBOUND VISITORS
MAUI COUNTY
1970-1984*



The entry of overseas airlines to the Maui market has strained the capacity of the Kahului airport terminal, which was designed for interisland needs. Although a new terminal building is being planned to replace the present structure, the conceptual design of the new terminal proved to be inadequate after direct flights from the Mainland started last year. The increase in the number of flights from the Mainland and the larger aircraft required for those flights forced a change in design, and it will be another year before the design is completed. If everything goes as planned, construction can begin in 1986.

Rapid growth of tourism has had a favorable effect on retail sales. Last year, retail sales climbed to $467.3 million, an increase of 12.6 percent over the 1982 total. The pace this year has been faster, with the year's total estimated at $610.5 million based on sales for the first eight months. This would be a 16 percent increase.

The visitor increase is also confirmed by the movement of surface freight. Matson Navigation Co. figures show that the volume of refrigerated cargo coming to Maui is directly related to visitor arrivals to Maui. Perishable cargo that Matson carries westbound to Hawaii grew from 2 to 4 percent annually for the state as a whole. But for Maui, the growth this year is running at a 22-percent rate, mainly due to the foodstuffs and equipment being shipped to hotels. Dry cargo for Maui is also the highest among shipments to the state, with annual increases of 8 percent while volume for the state as a whole stood at 2 to 4 percent annually.

The continuing growth of the economy keeps the county busy expanding its infrastructure to meet the needs of an increasing population and new businesses. The Napili-Honokowai sewer system is being built, and will be tied to the Lahaina Sewer Treatment plant. When this system is completed, the private Kapalua system will be tied in to the county system.

In the central valley, the Paia sewer system's preparation

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station is under construction, while the collection line will be built as soon as the bids are awarded.

The county is also going through with the revision of its community development plans, as mandated every ten years by the Master Plan. Revisions have been completed for Molokai, Lanai, Kahoolawe, Lahaina, Hana, and Paia.

Public hearings for the Kihei community plan were completed recently, and it will go before the County Council for final action. Revision of the Wailuku-Kahului and Upcountry community plans remain on the Council's agenda.

Maui's tremendous economic growth over the years can be traced to the vigorous and creative leadership that has been provided by those both in the public and private sectors, who have worked for the good of the community.

One of the better examples of this leadership is the organization of the Maui Economic Development Board. The concept of providing more jobs and better career opportunities for the next generation grew rapidly because the board was able to get the entire community involved—the county administration, the county council, and those in private business and professions.

Other examples of innovative leadership at work in Maui County are: (1) the creative marketing of Maui by the Maui County Visitors Association; (2) the county's innovative housing program that has been providing homes for low and middle-income families; (3) high-tech agriculture as seen in the NifTAL project, the new high-tech hydroponics enterprise of CEF Ltd., and the new high-tech shrimp culture of Orca Seafarms Inc. on Molokai; (4) growing leadership in diversified agriculture, which is helping farmers increase efficiency in marketing; and (5) the innovative marketing of diversified agriculture by the Hawaii Tropical Plantation.

THE VISITOR INDUSTRY

Maui County is having a tremendous year in tourism. Westbound visitor arrivals for the first nine months—annualized—are close to 1.9 million visitors for the year. With the addition of eastbound visitors, the year's total could well reach 2 million compared with 1.6 million westbound in 1983.

With such a crush of visitors, it was not unusual for many hotels to have sold-out days even during normally slow seasons. The occupancy rate for the first nine months averaged 81.9 percent, a rate not achieved in the past 15 years (see Figure 5). The reason for the tightness is that, while the number of visitors jumped 37 percent in the past three years, the number of hotel units increased only 18 percent (see Figure 6).

FIGURE 5
HOTEL OCCUPANCY RATE
MAUI COUNTY
1970-1984*

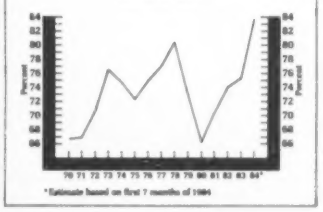
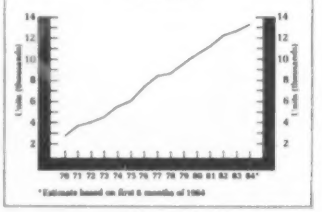


FIGURE 6
HOTEL INVENTORY
MAUI COUNTY
1970-1984*



This tremendous increase in visitors apparently means that many tour groups have been coming to Maui this year. The Maui County Visitors Association (MCVA) has not gone after this group for years. Instead, it has pioneered the concept of target marketing by concentrating in attracting those in the upper income strata. Maui room rates are the highest in the state, but the kind of visitor Maui desires—the golfer, honeymooners, tired businessmen, and young affluent families—are flocking to its shores. As the Mayor says, "Maui is a special destination area that has been planned well and is of high quality. We would not do anything that would detract from its beauty."

Maui's three premier resort areas of Kaanapali, Wailea, and Kapalua are doing well this year.

The Kaanapali hotels as a group have had a solid 90 percent occupancy for the first nine months of 1984. With visitor numbers bumping against total room capacity, arrivals cannot increase until inventory is replenished.

Amfac Properties has five to eight more ocean front lots for hotel development in Kaanapali, but there are no plans at present for a hotel project. The airstrip that runs along the shoreline must be removed before any work can begin. Amfac is thinking about even more luxurious hotels for that north end of the property when the time comes for development.

Alexander & Baldwin Inc. once again has full ownership of Wailea, having bought out the interests of its former joint partner, the Northwestern Mutual Life Insurance Co., last July for $30 million.

An exciting project at Wailea that is going through the permit process is a condominium-tennis complex in which 35 tennis professionals would make a circuit of four or five such resorts around the nation. The Grand Champion Resort Development Corp. of Scottsdale, Arizona plans to build 188 condominium apartments for the guests who can take lessons from the pros, play in tournaments, or watch the pros in exhibitions. This project will be on 24 acres adjacent to the Wailea Tennis Center.

Plans for the fourth condominium village in Wailea, to be known as Wailea Point, were also advancing through the permit process. Clyde A. Wagner, former Mainland developer and now a Wailea resident, purchased 26 acres for the 136 luxury condominium apartments he will build.

The two hotels within the Wailea resort have reported a good year, and have been enjoying occupancy rates that are among their best. The Wailea Development Co. has two more hotel sites within the resort, and developers have shown interest in them. One of the sites may be sold next year. With the increase in visitor activity, Wailea's two golf courses have been very active, and they will approach 90,000 rounds of play this year.

The Kapalua Bay Hotel, which has experienced some lean years, is having a much better year with occupancy running around 75 percent for the first nine months of 1984. It is starting a $1.5 million refurbishment program for the majority of its rooms. The hotel, except for the villas, will be closed for six weeks during the program, which is expected to be completed by next July. It takes time to build a clientele that returns annually to the same resort, and further progress has been made at the Kapalua Bay Hotel in the last year.

The Kapalua resort annually puts on the Kapalua International golf tournament with some of the top professionals playing for prize money which this year totaled $450,000. It was broadcast live during the three days of the tournament, and has been an excellent marketing tool.

A new kind of resort for Maui, and in fact the entire state, will make its appearance when the 82-room Hotel Hana Maui is transformed into a luxury hotel with a Hawaiian atmosphere by Rosewood Corporation, which purchased the hotel and Hana Ranch Inc. last July. In addition to improving economic opportunities for Hana residents, the new owners want to strengthen its ties to the Hawaiian community, and help preserve the heritage and natural beauty of the area. Rosewood Hotels picked Carl Lindquist to carry out this task. A publisher for most of his career, he was chosen for his personal ties to the area and its people.

The hotel is planning to serve an all-fresh menu, which would require working with Hana people who will supply them. It will also serve its own beef from the ranch as an option for guests, and is looking hard at botanical and aquacultural projects.

For the hotel, all rooms will be remodeled incrementally at a cost of up to $7 million—a three-year project. The grounds will be turned into a tropical garden. Arts, culture, and gardens will be emphasized in its marketing, and an artist-in-residence series is planned. There are 107 employees, and many of them will be trained in Rosewood hotels on the Mainland to raise service to luxury standards.

Condominium apartments in the rental pool play a more significant role in Maui County than in any other. Maui island alone has 6,817 condo units in the rental pool, which is 53.7 percent of total visitor accommodations on the island. No other county comes close. For Maui, about three-fourths of all condo units are in the rental pool and the number stays relatively stable.

Condos require a minimum four or five days stay per visitor,

and rates are high. But there is good demand from older people, those who want to escape the cold in winter, and families in summer.

Many condo units were not occupied during the bleak year of 1982 and partially in 1983. But it was a different story this year, with most of them approaching capacity. A strong beneficiary of this upswing was retail business. A survey showed that 43 percent of those at the Whalers Village shopping complex in the Kaanapali resort were not hotel guests. Presumably, they were mostly guests at condominium apartments.

THE SUGAR INDUSTRY

In 1984, the sugar industry on Maui suffered through one of the worst droughts ever recorded on the island, which will have an adverse impact on the 1985 and 1986 crops. On the brighter side, the 295,000 tons of sugar that the three plantations will produce in 1984 is the best crop since the 303,000 tons produced in 1966. The dry weather brought ideal ripening and harvesting conditions, resulting in very high yields for this year's harvest. The 1983 crop totaled 285,000 tons of sugar.

Hawaiian Commercial & Sugar Co., Hawaii's largest sugar plantation with 35,500 acres of cultivated fields, produced a record crop of more than 223,000 tons of sugar. Actually, the 1984 crop was 220,600 tons, still a record, and the remainder was from the 1985 crop, fields which were harvested early to save the cane dying from the continuing drought.

The plantation normally gets 130 million gallons of water a day from ditch flow originating in the East Maui mountains. It needs a minimum 300 million gallons a day for irrigation, with the requirement above the ditch flow coming from wells. But for several months, the ditch flow was down to 11 million gallons a day, of which three million gallons are required for its factory operations, and six million gallons are drawn by the county. The remainder was used to irrigate the higher-elevation fields, and that is a fraction of normal irrigation requirements.

Lack of rain has also reduced drastically the hydroelectric power normally generated for its own use and for delivery to Maui Electric Co. Since it has a firm power contract, HC&S has had to burn oil to supply the volume of power called for in the agreement.

The water situation was similar at Pioneer Mill Co. It requires about 100 million gallons a day for irrigation, with half supplied by ditch flows and the remainder by wells. Its major surface water source in Honokohau Valley normally flows at a rate of 30 million gallons a day. But for many weeks it was down to 1.5 million gallons a day. Other ditch systems were similarly affected. The drought also prevented planting for a while.

However, the dry weather has helped Pioneer Mill produce 54,000 tons of sugar this year, up from 52,142 tons last year. Yield for the year was running at 14.44 tons of sugar per acre through early fall due to ideal dry weather for harvesting and good moisture conditions in 1982 and 1983. Since the drought in West Maui didn't begin until after Christmas of last year, Pioneer Mill is looking for a good 13.84 tons of sugar per acre for 1985, although a continuing drought will chop that yield. The results are excellent considering that Pioneer Mill was hit by smut disease, and affected fields had to be replaced by a more resistant variety over a two-year period. This plus the drip irrigation system and good cultural practices were responsible for the improvement.

Wailuku Sugar Co., which hasn't had a loss since 1979, will end up with a small profit again this year on an output of 21,300 tons of sugar, up from 20,599 tons last year. The yield this year of 13 tons of sugar per acre is the highest in the past 18 years. The plantation attributes the good record to its quality circle program that has been in effect for a few years.

Wailuku Sugar has 1,500 acres planted in macadamia nut trees on former sugarcane land. The program will be complete when it puts in another 270 acres of saplings next year. It harvested 40,000 pounds of nuts last year, and this year's crop will reach 150,000 pounds.

THE PINEAPPLE INDUSTRY

Results for the pineapple industry in 1984 ranges from excellent on Maui, to stable on Lanai, and lowered production on Molokai, to be discussed in the Molokai section.

Castle & Cooke's Lanai plantation was reduced in acreage a few years ago to 12,000 acres, with some marginal land being fallowed. The company invested in a drip irrigation system for some of the better yielding fields, and production has increased. Production will increase this year, but a decline is forecast for 1985 due to the marginal land not being planted three years ago. Fruit tonnage will begin to rise again in 1986.

Maui Pineapple Co. is having an excellent year in 1984. Crop yields have been very good. The cannery has operated efficiently with good productivity. The recent drought has had some effect this year, but drip irrigation systems in most of the fields have mitigated the impact. The company is not sure how the recent dry weather will affect its 1985 and 1986 crop yields.

Marketing conditions have also been good this year, partly due to the adverse conditions in other growing areas. Thailand suffered a drought two years ago, and the Philippines also has had poor weather. Both are major growing areas. This combination of conditions on Maui and the rest of the world resulted in stable market conditions and reasonable price levels for Maui Pine.

Maui Pine has built its fortune in the private label market. It is the largest supplier in this market, and has 60 major customers—the largest accounting for only 5 percent of total sales. It employs 900 workers, and another 900 during the busy harvest season.

DIVERSIFIED AGRICULTURE

Farm sales of diversified crops and livestock for Maui County reached a record $28.9 million in 1983, an increase of 13.5 percent over 1982. The total was made up of $16.5 million in crop sales compared to $14.1 million in 1983, and $12.4 million in livestock sales, up 8.9 percent over 1983.

Diversified crops were aided by a large increase of 26.4 percent in sales of vegetables and melons totaling $8 million, and a big gain in the sale of flowers and nursery products amounting to $4.5 million. Gains in livestock sales were due mainly to a 14.1 percent increase in the value of cattle sales, which reached $6.9 million.

Despite the record year, farmers are concerned because the spotted wilt virus that attacks leaf crops has been found on Maui. Unless controlled or eradicated, this virus can devastate entire fields.

Diversified agriculture in Maui County is taking on a new look as new concepts such as high technology agriculture begin to sweep away the traditional ways of raising food. There are three significant projects of revolutionary proportions now underway. They are the controlled greenhouse vegetable culture in Kula, the NifTAL project in Hamakuapoko, and the salt-water shrimp culture on Molokai to be discussed in the Molokai section.

CEF Ltd., doing business as Controlled Environmental Farming, has introduced high-tech into the greenhouse in a way that may spell the difference between a successful farming operation and a profitable one. The partnership invested $1 million in research, and has developed a greenhouse that keeps insects and other pests out, takes advantage of the great growing climate, and uses a computerized feeding system for the plants. Each greenhouse is 4,000 square feet in size, and by the end of the year, the group will have 17 greenhouses in place and in operation. The greenhouses and other materials will cost $1 million.

When in full operation, the farm hopes to be producing 300,000 pounds of vegetables annually. Crops include tomatoes, lettuce, cucumbers, watermelons, peas, beans, herbs, and strawberries. This volume is forecasted to replace the portion of Maui demand that is made up of imports from the Mainland.

CEF Ltd. is planning to develop a similar farm on Oahu in 1985, and reduce the huge imports of produce that cannot be supplied locally. The greenhouses are expected to be from 10 to 20 times more productive than traditional farming, and will require 75 percent less water. To achieve this kind of productivity would require between one and two acres in the open field compared to the 4,000 square feet in one greenhouse.

The plants are grown in plastic bags filled with cinders. Water

and nutrients are fed through a drip system which is computerized to obtain the optimum benefit for the plants. Basically, the medium is kept moist continually. This forced feeding of plants results in rapid growth. For example, tomato plants grow from seedlings to the harvest stage in 60 days compared to five or six months in the open field. The plants are attached to strings running down from the ceiling so that they grow vertically. This increases productivity.

If this new hi-tech agricultural concept works, and it looks very encouraging so far, diversified agriculture may finally make a dent in growing Hawaii's own food, rather than importing it.

The NifTAL project on the former grounds on Maui High School has been operating quietly since 1975 to help Third World nations increase high protein food production with reduced use of costly nitrogen fertilizers, whose production base is petroleum.

Following the first oil shock in 1973, the United States through its Aid for International Development (AID), decided to help Third World farmers by encouraging the growth of legumes because of their ability to fix nitrogen biologically in the soil.

The University of Hawaii won the contract. The College of Tropical Agriculture and Human Resources established a financially autonomous unit on Maui in 1975 called NifTAL, which stands for Nitrogen Fixation by Tropical Agricultural Legumes. The project is run entirely on contracts and grants, mainly from the federal government. There are 75 on the staff, 50 of them on Maui and the rest scattered around the world. Sixteen have Ph.D.s and more than 20 have master's degrees. It operates on a budget of approximately $1.6 million a year, and is the largest hirer of college graduates on the island.

Maui has proven to be an ideal place for this research compared to the Mainland. There are different climatic conditions from sea level to the 10,000 foot elevation of Haleakala, and research can continue year-long.

Different varieties of beneficial soil bacteria (rhizobia) that are needed to fix nitrogen in the soil have been developed and tested to fit the various conditions in Third World countries to get optimum results. So far, 1,774 strains of rhizobia are in the project's collection. They were isolated from different legume species collected in 56 countries.

Since the rhizobia deteriorate unless kept under a low temperature, commercial plants have been built to produce rhizobia in India, Pakistan, Thailand, and Zambia. Field tests have been conducted with scientists in 53 countries. Over the past eight years, many scientists in foreign countries in this program have been trained by specialists on Maui or in their own countries. Farmers in Third World countries are being taught about the advantages of this program, and the demand for commercial rhizobia has been increasing.

Ron's Nursery in Kula, the state's largest grower of flowers, is changing direction as competition in this commodity gets tougher with new entrepreneurs entering the field. For many years, flowers accounted for 80 percent of revenues. It will be down to 65 percent this year and eventually to 50 percent.

Flowers are being replaced with onions and agricultural consulting. The big push will be in greenhouse-grown Maui onions, which are not marketed as a vegetable any more, but as a tourist souvenir of Maui. With the increase in direct flights to the Mainland, many visitors will want to take something of Maui back with them.

The nursery will package a two-pound plastic bag of Maui onions and market them as an airport item, which visitors can buy at the last minute, and carry them aboard the plane. Ten-pound packages will also be available.

The plant and foliage business is also expected to show good growth this year and next with large demands for landscaping. Hawaiian Foliage and Landscaping Inc. has the contracts to landscape the Lihue, Keahole, and Maui airports, plus the Seibu project in Makena, and the Waikoloa Shores on the Big Island.

Another new enterprise that is marketing diversified agriculture in an innovative manner is Hawaii Tropical Plantation at Waikapu. Sixty acres of former sugarcane land has been converted into an oasis of tropical plants such as banana, sugarcane, pineapple, papaya, macadamia nut, taro, and other exotics.

A train takes customers on a tour of the plantation, with stops for tastes of the different tropical fruits. This is the educational part of the theme park that is geared toward visitors. There are other exhibits in the main building, which also has a restaurant serving many of Hawaii's tropical fruits, prepared in different ways. A shop sells Hawaiian products.

The park was opened in September, and attendance averaged 1,500 daily in the beginning weeks. The firm has 75 employees plus some part-timers. Being visitor-oriented, the peak corresponds with the visitor seasons.

Raising and marketing of proteas in Kula are improving slowly as customers become more familiar with this exotic flower. A native of South Africa, proteas do well in the higher altitudes of Kula.

The Protea Cooperative of Hawaii represents close to half of the growers, who have a total of close to 30 acres in different varieties of the protea. It takes a grower five years to break even, so capital requirements are high to get into this business.

The cooperative ships about 85 percent of its production to the Mainland and a small amount to the Orient. The Mainland market is unlimited for the near future, but competition is beginning to increase from South Africa, Israel, Mexico, and South America. South Africa shipped most of its production to Europe in the past, but has discovered the Mainland market. Competition closer to home is San Diego, where growers are beginning to make a dent in the market.

The Maui cooperative stresses quality, sometimes to the distress of growers, but the reputation that has spread among buyers gives Maui the high tier of the market. The most popular varieties are the King's Mink, Sunburst, and Banksia. Shipments are by air freight, parcel post, and courier service. The cooperative has built a new packing and administrative building next to Kula Lodge, and also has a small retail shop on the highway. About 50 are employed in packing the flowers for shipment. New fields of protea have been planted, and in a few years, the cooperative will be handling an increasing volume of exports.

Another temperate zone product that is making Kula famous is wine from the Tedeschi Vineyards and Winery. The 1984 crop totaled 74 tons, almost double last year's 40 tons. The winery produced 6,500 cases of champagne. Fourteen acres of Carnelian variety grapes were planted in 1978, and a ton of grapes was harvested in 1980. The crop has been increasing gradually as the vines matured. Another six acres were planted last year, and they should bear their first fruits next year.

Orders for the champagne have been good, but the supply is small. They are marketed mostly on Maui and Oahu, with some going to the West Coast and Texas. The last of the 1981 vintage was released recently.

When the new fields begin bearing, production should increase significantly, beginning in 1986. The company is planning to penetrate the local market more fully as production grows before extending its marketing overseas.

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Another exclusive Maui product is rum. Maui Distillers began production in 1981, taking over the plant given up by Seagrams some years ago. It buys molasses from Hawaiian Commercial and Sugar Co. This raw material is pumped to the distilling plant located next to the plantation's Puunene factory.

The major product is rum, and a secondary output is cane neutral spirits, which is supplied to hospitals for their medical requirements. The rum is shipped in 5,000-gallon tanks to the Mainland for processing and packaging.

Seed corn research on Maui is being conducted by DeKalb Pfizer Genetics, one of eight Mainland firms that have research and development operations in the state. Once known as Pfizer Genetics, its research department was merged with that of DeKalb, another large seed company.

One of its new corn hybrids that it bred and developed a few years ago has turned out to be a winner, and millions of bags of that seed will be sold this year. The company has 86 acres on Maui that it can use for its research. But the company says that the total acreage this year was a 145-acre equivaient, based on the three crops of seed corn it produced, advancing the seed generations that much faster compared to the one-crop Mainland pace. DeKalb Pfizer employs a staff of 15 on Maui plus part-time help during the busy winter season.

Cattle sold by Maui Island ranchers during 1983 totaled 10.9 million pounds (live weight), an increase of 26.7 percent over 1982 sales. The value of 1983 sales amounted to $5.7 million, up 23.9 percent due to a slightly lower price last year. Molokai cattle sales totaled 2.4 million pounds, down 9.7 percent from 1982. The value of sales for 1983 was $1.2 million, down 14 percent. Sales of feedlot cattle came to 5.9 million pounds compared to 4.0 million pounds in 1982, with values of $3.4 million in 1983 compared with $2.4 million in 1982. Sales of range and other slaughter cattle from Maui totaled 5.0 million pounds, up from 4.6 million pounds in 1982. Value of sales came to $2.3 million in 1983, and $2.2 million in 1982.

Despite the favorable numbers, ranchers for some years have not been able to turn a reasonable profit due to high cost, such as for feed, and problems of marketing. Some ranches have started a breeding program to improve their herd.

Hana Ranch has a herd of 9,000, all Herefords. It purchased some Brahman bulls to begin a cross-breeding program. It hopes to produce a superior animal—one that gets bigger at an earlier age with a highly acceptable grade of beef. The Brahman, being a tropical breed, stays out and feeds even when it is hot while the Hereford tends to seek the shade when it gets too hot. This characteristic of the Brahman is what the ranch hopes to transmit to the new generation and increase productivity.

Hana Ranch is planning to finish some animals on grass supplemented with grain so that it can supply Hotel Hana Maui with its own beef. Most of the ranch's cattle are shipped to the Ewa feedlot on Oahu for finishing. Approximately 3,000 heads are marketed annually. The ranch has 11,000 acres of grazing land, and has 20 employees.

The 450-acre Kula Agricultural Park has finally opened, and a few farmers have started working their lots. It's been more than five years in planning and development since it was conceived. The park has 31 lots ranging in size from 10 to 30 acres. A committee carefully screens the applicants, who must have both farming and financial capabilities to qualify. There also must be a market for their produce. The lots are leased. This way the land will be in agriculture in perpetuity. If the farmer were allowed to purchase the land in fee, he probably would sell it to the highest bidder when he retires. As of October, two lessees were putting in vegetables, and the third was building a nursery.

Thoughtful farmers agree that water will be the limiting factor in Maui's agricultural future. This fact has certainly been brought home pointedly in the current drought that has hit the entire state. Maui has been hit particularly hard because its two biggest sources of surface water—the East Maui mountains and the West Maui mountains—have been reduced to record lows.

The county has contracted for a study by Belt Collins and Associates as to the feasibility of building a large reservoir along the high elevations of Kula to store water from mauka rain showers. The reservoir would be lined with a sealant, and be large enough to hold 300 million gallons. The county would like two such reservoirs to take care of emergencies that have hit Kula the past two years, and occur from time to time. One reservoir is estimated to cost $20 million.

For other areas of Maui, the county will put in wells to take care of their needs. Plans are advancing to develop wells in Lahaina, Keanae, and Hana.

THE CONSTRUCTION INDUSTRY

The long strike by the building trades unions in all the counties will result in a substantial decline in Maui County's construction put in place when the figures are compiled for 1984. The largest projects that have been affected are the Judiciary Building in Wailuku and Seibu's Maui Prince Hotel in Makena.

The value of residential permits issued in the first nine months of 1984 was 11.3 percent ahead of the 1983 pace (see Figure 7), but for nonresidential permits, the nine-month pace was down 63.8 percent (see Figure 8), with government construction contracts holding even with 1982 (see Figure 9).

FIGURE 7
PRIVATE RESIDENTIAL PERMITS
MAUI COUNTY
1970-1984*

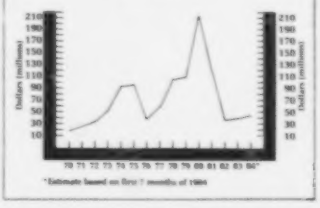
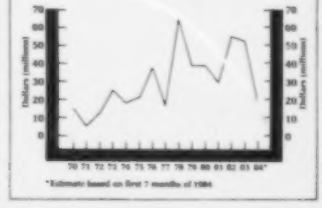


FIGURE 8
NONRESIDENTIAL PERMITS
MAUI COUNTY
1970-1984*



The lean times have forced contractors to cut staff to the bone. Maui Concrete & Aggregates, for example, has been forced to cut 250 from its payroll down to 30 employees during the strike. But rehiring prospects for workers are not promising because contractors don't see a good building year until 1986. As one said, they won't see another building boom like the 1970s again (see Figure 10).

Maui County, which has been known for innovative programs to provide low-cost housing to low and middle-income families, has come up with another program that is benefiting low-income families. This is the experimental housing program, permitted under Section 46-15, Revised Laws of Hawaii, in which the builder need not conform to normal building standards. The county worked with Molokai Ranch Co. to subdivide the former Del Monte employee homesites using this provision of the law. Minimum subdivision requirements were waived by the County Council, and the homes were sold to the workers at very reasonable prices.

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FIGURE 9
GOVERNMENT PROJECTS
MAUI COUNTY
1970-1984*

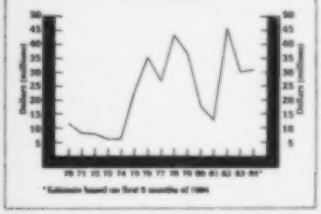
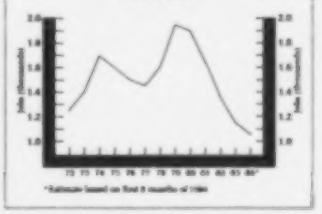


FIGURE 10
CONSTRUCTION JOBS
MAUI COUNTY
1970-1984*



The county has proposed to Molokai Ranch Co. a similar subdivision of Maunaloa Village so that those homes may be sold to families residing in the former Dole employee village. The county would also expand Maunaloa by 110 acres if it can exchange its 110 acres at the entrance to Kaluakoi for a similar sized area next to the village with Molokai Ranch. It would be able to build 63 homes under the same program for low-income families.

In the public works area, the county is going to float $25 million in general-obligation bonds to finance the construction of the $8 million new police station, $1.7 million for road improvements on Lanai, construction of the Paia sewer, and other projects.

The conceptual design of the new air terminal at Kahului Airport has been put on hold because the proposed entry of new airlines and the numerous Mainland-Maui direct routes, both planned and in service, have made plans obsolete. A new design to take care of current and future needs is now being drawn up.

The proposed construction of the airport on West Maui has been straightened out. Royal Hawaiian Air Service had an agreement with Maui Land & Pineapple Co. for a tract of pineapple land at Mahinahina for the airstrip. However, Royal Hawaiian Air wanted exclusive rights to the airport. Maui Land, fearing an antitrust violation, decided to let Hawaiian Airlines develop the airport with the understanding that other airlines may use the terminal also. The length of the proposed runway will restrict usage by jet transports.

The only hotel under construction on Maui is Seibu Hawaii's Maui Prince Hotel at Makena. It will be a 304-room luxury hotel. Work was 30 percent complete and on schedule until the strike by the building trade unions stopped all construction. Its scheduled opening was in the fall of 1985. Marketing will be Mainland oriented.

Over in Lahaina, plans to build a shopping center in the shell of the old Baldwin Packers pineapple cannery have been changed due to a new federal flood-control requirement. The new rule requires the floor to be raised, and the county wants some land in the front for road widening. Since the framework was rapidly deteriorating, Hawaii Omori Corp., the developer, decided to tear down the old framework, and build a replica of the old cannery so that it meets federal and county rules. The center will be on 14 acres of land, and will have 125,300 square feet of leasable space. Cost of the project is estimated at $14 million by the company. Depending on preliminary work including permit revisions, construction could begin in the summer of 1985. Hawaii Omori has signed leases with Longs Drugs and Safeway Stores, the latter for 34,000 square feet. Other leases were to be signed shortly.

HIGH TECHNOLOGY INDUSTRIES

The County of Maui is leading the way in seeking the kind of economic diversification that would bring not only more jobs for its young people, but also better career opportunities. The effort began with the Mayor appointing an advisory committee on Maui's economic future in 1981 followed by a symposium later that year at Kapalua to see what alternatives and opportunities Maui could exploit.

The committee was able to get Donald G. Malcolm, an engineer and Dean of the School of Business at California State University-Los Angeles, as its president. Initial funding came from the county and business firms on Maui. The Maui Economic Development Board was organized in April, 1982.

One of the first objectives of the board was to develop a quality research and technology park, and then invite companies that would be able to operate profitably from Maui as their base.

The board decided that it should develop the park first because a company that was interested could begin operations almost immediately. Otherwise, it may take up to five years to go through the permit process. The park would be zoned commercial so that no company locating here would have to go through the time-consuming process.

The board decided to develop a site at Kihei. The Kihei Community Plan was being revised by the county at that time, and the board proposed that the site be included in the revised community plan as a hi-tech park. The County Council committee that was holding the hearings approved the inclusion of the site in the revision. Because the committee makes up the majority of the Council, the site, in effect, has been approved for inclusion in the revised Kihei Community Plan.

The board promptly asked the State Land Use Commission for a change in the use of the land. It has also moved swiftly to find a developer who had the financial capability to develop the project on his own. The board chose Joel Smolen of Gilroy, California.

He will buy the land and develop it, keeping within the standards set by the board. He will put in the infrastructure, and be responsible for marketing. The board will support the developer fully.

An ordinance that would establish the authorization for a research and development park was being considered by the County Council. The ordinance would establish the process of application and approval, and would streamline the permit process.

The developer would first submit his concept for the park. When this is approved, the builder will bring in the plans, bypassing the subdivision and building permit processes.

The board has decided on a lushly landscaped, campus-like environment for the park, with buildings to be kept low with plenty of space in between. This is in keeping with other successful R&T parks on the Mainland. If the board has its way, the park would be filled with research and software development firms.

The lack of higher education for the needs of those employed in the park and for young people aiming for such a career was of some concern to the board. It will attempt to overcome this deficiency by improving the curriculum in the public schools and at Maui Community College. Professional level seminars are also being considered as are management training and the invitation of technical specialists with high skills.

The successful accomplishments so far of the Maui Economic Development Board can be credited to its determination to get the community involved. The county administration, the County Council, business and professional people, and all others who can contribute to the effort were sought out to join the organization.

Eight continuing action panels were organized to seek solutions to the needs and problems of Maui. These panels are keeping the entire community in action and informed about the steps being considered to get Maui ready for a high technology future.

RENEWABLE ENERGY

Maui does not have the extent of renewable energy resources that the Big Island possesses, but it is making every effort to develop what the island has. The sugar plantations have been for many years generating power by burning bagasse and by hydroelectric means. Today, Hawaiian Commercial and Sugar Co. supplies Maui Electric Co. with 12 percent of the power it distributes throughout the island. Maui Electric distributed 490 million kilowatt hours of electricity in 1983, and it estimates the total will be 525 million kilowatt hours in 1984.

Maui Electric is very interested in developing the geothermal resource that appears to be present along the fault line that stretches down from Ulupalakua Ranch headquarters to the sea. Geologists have estimated that there is sufficient steam at one of the better sites to make it a 50-megawatt source.

Before any drilling, the State Board of Land and Natural Resources, which held a public hearing earlier, must decide

whether to approve a subzone below Ulupalakua for geothermal development. Then the county must pass an ordinance before work can start. The earliest that drilling can begin probably is next summer. Maui Electric is hoping for enough steam for a 12-megawatt power output.

The county earlier this year designated a 107-acre area at Maalaea as an energy park, where developers can build or experiment with alternate energy plants. A Mainland developer has received approval to build a 340-kilowatt windmill next to Maui Electric's generating plant.

Like the other counties, Maui has been looking at the possibility of producing power by burning the refuse it collects every day. One problem is that the volume may not be sufficient to keep a generating plant in operation unless it is supplemented by wood chips or bagasse. However, the Mayor is hopeful after attending a conference in San Diego, and sent two engineers to another conference to check out the potential for Maui.

ASTRONOMY

Science City, on top of 10,000-foot Haleakala, is the second of the University of Hawaii Institute of Astronomy's world-class sites for the study of space.

The institute has two ongoing projects in Science City. Its solar physics department's Mees Observatory does solar research. The Lure Observatory has a laser ranging program to check movements on earth.

In solar research, Mees scientists take pictures of sun spots simultaneously with a satellite in the sky to see which makes a better observation of that phenomenon.

In the lunar project, scientists try to hit a spot on the moon with a laser beam at the same time that nine other stations are doing that, and the beam that bounces back to earth provides data that can measure any movement of the earth's tectonic plates, such as under the San Andreas fault.

Other universities have also been using the research facilities at the observatory. The University of Birmingham, England, is studying solar oscillation, and has found that weather and atmospheric conditions are well suited for that study. The University of Texas is studying the light reflected off heavy particles in space. The University of Wisconsin is studying low-light levels in association with the Department of Energy. Purdue University is also involved in this study.

Science City is probably more important to the Air Force which is involved in the spacecraft surveillance program. It has more than 200 persons working on the summit daily, and there is a possibility that the Defense Department may expand its research on Haleakala. The institute employs about 16 people for its programs.

CONCLUSION

Maui County has established an enviable economic growth record that can be credited to creative leadership at both the public and private levels. In spite of the high level of achievement, its leaders are not resting on their laurels. Innovative ways of striving for new goals, and making work more productive are flourishing in the county.

Maui is taking the lead in creating new economic opportunities so that the coming generation need not leave home to fulfill their career goals. The formula for this success so far is a leadership that solicits the participation of all who can contribute to the effort. In creating this degree of cooperation, Maui is succeeding in mobilizing resources in a way that could be an example to the other counties.

MOLOKAI

Molokai is emerging from the crisis of 1982 when Del Monte, after several years of indecision, announced it was getting out of the pineapple growing business on Molokai, and Molokai Electric Co.'s brand new biomass power plant broke down, with repair estimated to take a year or longer. Unemployment that year was 15.4 percent, and shot up to 20 percent in 1983.

All of these adversities have been reversed. Del Monte Corp. has decided to continue farming on Molokai indefinitely, and Molokai Electric, which faced bankruptcy or voluntary reorganization, picked the latter route as the choice of the creditors. A new management committee, with tremendous cooperation from creditors, is turning the utility around. The unemployment rate, although still high, has been reduced to 16.4 percent in the first nine months of 1984.

The visitor industry is doing much better this year as part of the general resurgence throughout the state. But more important, the industry has received funds for the first time from the state ($100,000 on a matching basis) and the county ($50,000) to promote Molokai. The industry group—Destination Molokai—has committed $60,000 for a joint promotion of Molokai with United Airlines and Maui County.

The Sheraton Molokai Hotel, the largest on the island with 300 rooms, is experiencing an upsurge in visitors. A major source of guests is from the other islands, largely Oahu. They account for up to 40 percent of the guests, who stay longer than at any other Sheraton hotel in Hawaii. Sheraton has nearly half of the 628 visitor accommodations on the island. There are six other hotels and condominiums, ranging in size from 43 to 83 units.

A 375-room luxury hotel has been proposed for development south of the Sheraton Molokai on the west end of the island by Kaiaka Associates, a limited partnership. The cost is estimated at $85 million. The project is in the initial stages of the permit process, and it will be some months before construction can begin. The development will be on 22 acres of land owned by Kaluakoi Corp., which has 6,800 acres of land in that area.

Besides tourism and government, agriculture is the other base of the economy. With the phasing out of a large part of the pineapple industry beginning in 1975, large tracts of land reverted back to homesteaders in the Hawaiian Homes tract at Hoolehua. At that time, around 25 acres were being farmed by homesteaders, but this has grown to 300 acres today. Another 300 acres are being farmed in the county-sponsored agricultural park south of the airport, and adjacent to that, 60 acres of state land is in agriculture.

Shipments of all produce to Honolulu, including cattle, went from 2.4 million pounds in 1980 to 6 million pounds in 1983, according to the University of Hawaii Extension Service. Another increase is expected for 1984. Value of sales went from $1.1 million in 1980 to $2.3 million in 1983.

Today, Molokai is the state's leading producer of string beans (58 percent), bell peppers (39 percent), sweet potatoes (79 percent), and watermelons (63 percent).

Farmers have worked with Oahu wholesalers, who have cooperated in improving the marketing for Molokai produce in Honolulu. Growers have developed a consistency of supply, maintaining a flow to Honolulu when the Mainland supply is low, and shifting to other crops when imports increase.

The twice-weekly barge service to Honolulu has worked well for the farmers' needs so far. The farmers are planning to build a forced air cooling plant that would keep crops like beans, watermelon, and eggplant in fresh condition prior to shipment.

The presence of Del Monte is not as important in terms of employment as it was in the past, but in the stability it brings to agriculture on Molokai. Employment today is down to around 100 due to drought conditions. A few years ago, more than 200 full-time employees were on the payroll. The fields have been cut by a third to around 2,000 acres, leased from Molokai Ranch Co.

The decision to remain on Molokai was due to the advanced drip irrigation system developed there several years ago, in which nutrients are applied through the drip system. When EDB was banned, the residual effect of the new fumigant was found to be much shorter. But the new fumigant can be applied efficiently through the drip system for as long as required, and Molokai was equipped with a large proportion of drip. Therefore, Del Monte reduced the acreage on Oahu, and kept Molokai in operation.

In a fresh fruit operation, appearance is all important, so not all of the fruit meet the standard. Fruit that is not ideal for the fresh market will be processed in Honolulu as frozen pineapple products for export, and the remainder will be processed into juice concentrate at Del Monte's new processing plant at Kunia.

Seed corn research, which got started in the state in 1967 on Molokai, is a thriving business on the island. Hawaiian Research Ltd. and Holden's Foundation Seed Inc., which are related firms, farm 300 acres, and Funk Seeds International, about 60 acres.

A very successful project, now in its seventh year, is the learning center run by the Molokai Hawaiian Academy of Knowledge for high school students, who are unable to learn in the traditional environment due to behavioral or social problems. The curriculum consists of courses that will lead to a high school diploma, but more importantly, skills in agriculture and aquaculture that would lead to subsistence or a profitable enterprise following graduation. The classrooms are at the Kilohana Community Center and the hands-on training area is located at Keawanui where Kamehameha School/Bishop Estate has provided 100 acres of land of which 25 acres are now in use. Many of the students' families have ancestral lands where the skills can be put to use. Kamehameha Schools and the Department of Education provide the funds for this program, with additional support from community agencies.

The 76-acre fishpond at Keawanui is nearly restored, and students are learning to raise fish in the traditional manner combined with modern scientific methods. The results have been very encouraging. A majority of the students are meeting the academic requirements for graduation, transforming once-alienated young people into productive citizens.

Aquaculture got a big shot in the arm when Orca Sea Farms Inc. started a high technology ocean shrimp farming operation last year on 157 acres of Molokai Ranch land near the south shore west of Kaunakakai. Sections of the operation are being financed by limited partnerships.

Orca eventually hopes to market its research and development expertise, license fees, royalties, and technical consulting services. It employs 12 now, mainly technical people, but at full development, the facility will require 45 on the staff.

Shurei Hirozawa
Vice President
Marketing Division

Maui County Statistics

	Unit	Period	1979	1980	1981	1982	1983	Jan.-Sept. 1984	% change Jan.-Sept. 1984/1983	% change Annual 1983/1982
Population, Resident	number	July 1	68,900	71,900	75,600	79,662	82,700	n.a.	n.a.	3.8
Per Capita Personal Income	dollars	total	8,173	9,144	9,763	10,458	n.a.	n.a.	n.a.	n.a.
Civilian Labor Force	number	mo. avg.	34,050	36,650	39,050	42,200	43,300	43,550	−0.2	2.6
Employment	number	mo. avg.	32,000	34,750	36,700	38,850	39,850	40,550	1.0	2.6
Unemployment	number	mo. avg.	2,050	1,900	2,350	3,350	3,450	3,000	−13.0	3.0
Unemployment Rate	percent	mo. avg.	6.1	5.2	6.0	7.9	7.9	6.9	−13.7	0.0
Total Job Count[1]	number	mo. avg.	32,650	34,050	35,350	36,850	37,450	37,300	−0.9	1.6
Gross Business Receipts	mil. $	total	960.4	1,113.7	1,169.4	1,166.3	1,401.8	1,221.8	13.9	20.2
State Tax Collections[2]	thous. $	total	53,096	56,897	57,584	52,850	68,217	56,149	9.9	29.1
Total Bank Deposits	thous. $	mo. avg.	247,224	266,241	282,019	307,139	349,640	401,541	15.9	13.8
Debits to Demand Deposits	mil. $	total	2,787	3,077	2,955	3,112	2,997	2,488	9.7	−3.7
Estimated Westbound Visitors	thous.	total	1,420	1,378	1,380	1,608	1,696	1,407	9.8	5.5
Intended Length of Stay — Westbound	no. of days	mo. avg.	4.0	4.1	4.1	4.3	n.a.	n.a.	n.a.	n.a.
Hotel Inventory	number	June	9,654	10,483	11,245	12,278	12,680	13,336	5.2	3.3
Hotel Occupancy	percent	mo. avg.	73.0	66.2	70.3	73.9	75.2	81.9	7.1	1.8
Private Permits	thous. $	total	146,444	213,689	147,813	90,704	91,249	46,631	7.0	0.6
Residential Permits	thous. $	total	107,857	215,209	118,802	35,771	38,814	32,399	5.6	8.5
Single Family	no. of units	total	1,010	803	398	530	547	489	15.1	3.2
Multi-Family	no. of units	total	1,098	1,815	1,085	122	24	6	−72.7	−80.3
Non-Residential Permits	thous. $	total	38,587	38,480	29,011	54,933	52,435	14,232	10.3	−4.5
Public Contracts Awarded	thous. $	total	36,777	17,886	12,687	45,790	29,943	22,988	−9.7	−34.6
Federal	thous. $	total	1,572	3,400	1,007	12	106	0	−100.0	783.3
State	thous. $	total	28,420	13,181	7,364	18,374	22,423	12,498	−35.7	22.0
County	thous. $	total	6,785	1,305	4,515	27,404	7,414	10,490	87.0	−72.9
Real Estate Resales										
Single Family	number	total	221	189	148	103	185	155	6.9	79.6
Average Price	dollars	cum. avg.	159,094	169,191	181,889	134,969	155,095	180,572	13.2	14.9
Condominium	number	total	649	372	240	282	361	310	−2.2	35.1
Average Price	dollars	cum. avg.	137,000	160,000	167,000	153,000	151,000	143,856	−4.7	−1.3
Electricity Generated	mil. KWH	total	439	468	506	507	525	453	8.6	3.6
Telephone Access Lines[3]	number	end per.	29,065	30,921	32,725	34,629	36,549	37,993	6.0	5.5
Sugar Production, raw sugar (K)	thous. tons	total	253	266	255	235	287	263	4.8	22.1
Total Nonsugar Crops and Livestock	mil. $	total	55,264	58,502	64,790	64,045	73,969	n.a.	n.a.	15.5
Nonsugar Crops	mil. $	total	43,718	48,418	53,185	52,687	61,602	n.a.	n.a.	16.9
Livestock	mil. $	total	11,546	10,084	11,605	11,358	12,367	n.a.	n.a.	8.9

Refers to number of jobs rather than number of persons employed. Persons with more than one job are counted more than once.
[2]Totals do not include property taxes.
[3]Access lines represent the lines connecting customers to the network regardless of the ownership of the customer premises equipment.
n.a. = not available

RESEARCH DEPARTMENT
NEIGHBOR ISLAND PROFILES
NOVEMBER/DECEMBER 1984

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ECONOMIC INDICATORS

NEIGHBOR ISLAND PROFILES

MAUI COUNTY IN 1985

The most important news affecting Maui County's economy this year was the United Airlines (UAL) strike. Because of Maui's heavy reliance on United's five direct daily flights from the mainland, the strike's impact on Maui's tourism-dependent economy was especially severe. The loss of westbound visitors was estimated by First Hawaiian Bank at 36,378 persons. This represented a total expenditure loss of $39 million, and has effectively nullified what had promised to be a banner year for Maui's economy.

Prior to the strike, gross business receipts for the county were showing a strong 4 percent increase for the first five months of 1985. Total jobs in the county were also ahead by 6 percent, and the unemployment rate had dropped by 22 percent from 1984. Unfortunately, these trends were upset by the UAL strike, and the rest of 1985 will depend on the speed of tourism's recovery on Maui.

In agriculture, the drought of 1984 and renewed dry weather in 1985 have started to cut into farm yields. However, Molokai's diversified agricultural operations are still going strong, expanding their share of the state's produce market.

Except for increased building by the county government, construction on the Valley Isle is continuing to decline. Resales of single-family units are going well compared to a still depressed condominium market. The Kahului Airport expansion and West Maui airfield projects seem to be heading forward, and the Kihei Research and Technology Park took a major step toward becoming a reality, thanks to the efforts of the Maui Economic Development Board and a supportive county government.

MOLOKAI

On Molokai, diversified agriculture is king, with gross sales of $15 million enjoyed in 1984, and production of 6.3 million pounds of fruits and vegetables recorded, double the amount for 1983. The leaders in last year's bountiful harvest were watermelons and onions, green beans, sweet peppers, sweet potatoes, hay, alfalfa, and seed corn. Beef production has also been an important component of Molokai agriculture, with last year's sales recorded at $1.3 million.

Watermelon had a record year in 1984. The production of over 3.7 million pounds of watermelon in 1984 was over 154 percent higher than 1983. However, where watermelon farmers had initially prospered by cutting into the mainland's share of Hawaii's watermelon sales, the farmers' new success in growing the fruit has turned into a situation of oversupply. Also, prices this year are barely covering costs, leading to many fields being left unharvested, and some planned for conversion to other crops. Most recently, a pesticide problem involving only mainland watermelon has scared Hawaii consumers away from local produce.

The situation for other crops is more positive. In 1984, sweet potato production stood at 996,000 pounds, up 3 percent from the year before; sweet peppers at 465,000 pounds, up 86 percent; and green beans at 552,000 pounds were up 25 percent. Molokai's share of the state's vegetable production is increasing, with Molokai sweet potatoes accounting for 87 percent, peppers at 56 percent, and beans at 68 percent of Hawaii-grown produce.

Seed corn on Molokai is also experiencing a good year. After enduring a depressed market in 1984 due to federal incentives for farmers to reduce their planted acreages, the demand for seed corn has resumed at a remarkable level despite the mainland's ongoing droughts and the farm credit crisis. For Hawaiian Research and Holden's Foundation Seed Inc., the future looks promising, with 10 percent annual gains in sales projected for the near future. These related companies also provide a major contribution to Molokai's visitor industry by hosting about 200 scientists for three weeks every year who come to conduct breeding and other scientific experiments in the development of improved seed varieties.

Orca Sea Farms, located in the flatlands west and makai of Molokai Electric's new power plant, is in the process of constructing what will be 28 ocean-shrimp production ponds. Commercial production is expected by the end of the year. Orca will conduct its own marketing and distribution of the fresh frozen product, and is already test marketing its shrimp in California and Colorado.

Many of Molokai's diversified agricultural producers operate in Maui County's 305-acre agricultural park located in Hoolehua. 431 acres in 25- to 124-acre lots in the second phase will be ready for leasing next year. Relatedly, about 106 agricultural lots of up to 25 acres were awarded in May to Hawaiian homesteaders by the State Department of Hawaiian Home Lands.

Last year's drought and recent dryness has provoked speculation that expensive water pumping will be required this year, which may lead to an increase in water tariffs now set at 8 cents per 1,000 gallons of water compared to Maui's rate of 80 cents per 1,000 gallons. Daily outflow from the Kualapuu Reservoir has already been near the facility's capacity for several years. The biggest threat,

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however, lies in the growing domestic usage of water from the state's Molokai Irrigation System. About 500,000 gallons per day of water is being tapped for domestic use for the town of Kaunakakai until an independent and adequate water supply can be developed. Also, Kaluakoi Corporation, developer of the Sheraton Molokai, already is using part of the system's pipeline to carry its water. Farmers fear that these domestic uses of the Molokai Irrigation System may eventually crowd out agriculture as demand increases or as water supplies dwindle during periods of drought. Another complication is that two-thirds of the irrigation system's water is earmarked for use by the Hawaiian homesteaders. Should the water requirements of homesteaders continue to grow, competition for water could intensify.

Aggressively lobbying for the first time this year, the Molokai Farm Bureau won major victories at the 1984 legislative session. One was a $154,000 appropriation to develop an agricultural experiment station on Molokai to research crops and agricultural practices especially suited to Molokai's unique climate. The other was an appropriation to enable construction of a $400,000 cooling plant that will enable farmers to stabilize their shipments of produce, allow for more regular crop harvesting, and encourage the growing of profitable but more perishable fruits and vegetables that could benefit from cool storage.

The visitor industry on Molokai saw an estimated 4,170 overnight and longer visitors in 1984. From all indications, it appears that the brunt of the United Airlines strike spared Molokai because of business from local residents and returning visitors.

Destination Molokai, a volunteer visitor promotional organization, is continuing to boost Molokai's image as "The Old Hawaii," a place for visitors to find restful seclusion from the tensions of modern life. The organization is engaging in cooperative advertising with United Airlines, participating in mainland U.S. and Pacific Basin travel industry conventions, and organizing activities with Honolulu and Maui travel agents to help local residents become better acquainted with what the island has to offer. The success of this effort can be seen in Sheraton Molokai's April announcement that it had attained a 100-percent occupancy rate for the first time.

MAUI

THE VISITOR INDUSTRY

Last year, Maui County's visitor arrivals hit a new high of 1.8 million westbound visitors, representing a very robust growth rate of 9 percent. Trends in the industry were pointing to another great year, but the United Airlines strike in May evaporated those hopes. Through April, Maui's visitor arrivals were running 8 percent higher than last year, but the mid-May strike cut the cumulative growth rate by more than half to 3.5 percent.

It is more difficult to perceive the strike's impact on Maui's hotel occupancy rates. Occupancies through April of this year were healthy, ranging from a high of 96 percent in February to 84 percent in January and April. May's occupancy of 77 percent was significantly lower than the trend, but not unusually so since May is a seasonally slower month for Maui hotels. With June being another seasonally slow period, it may take several more months before the strike's impact on hotels becomes visible.

The strike's impact was clearly devastating for Maui's large visitor condominium market, however, which now comprises 58 percent of available accommodations. Occupancies for condominiums in the Kahana area of West Maui dropped 15 to 20 percentage points. The outlook for recovery appears hopeful, however, with full occupancies expected by the end of the year.

By fortuitous timing, the Kapalua Bay Hotel closed six days after the onset of the strike for scheduled renovations with reopening set for early July. Prior to the strike, Kapalua had enjoyed the best first quarter in its history, with occupancies above 90 percent. Judging by the strength of advance bookings, recovery is expected to come by the fourth quarter.

The upscale resort area of Kaanapali also appears to have weathered the strike with little damage. Occupancies since January have remained above 90 percent for most hotels, with June promising a slight dip to the lower 80's. Reasons for this strong showing include the increasing mix of affluent, independent travelers at Kaanapali, as opposed to organized tour groups, and a rising average length of stay, now at about five days.

Ongoing at Kaanapali is the development of the Hawaiian Sea Village project, which promises to be a unique, living cultural center displaying the lifestyle, cultural practices, and artifacts of ancient Hawaii prior to European contact. Patterned after the historical displays of Williamsburg, Virginia, the project is estimated to cost over $4 million, and will utilize a 22-acre site across from the Marriott and Hyatt Regency hotels. The project has received approval from the Maui Planning Commission, and is under review by the Maui County Council.

Also in process at Kaanapali is the renovation of the Maui Surf, which will feature a huge atrium entrance complete with a 20-foot high waterfall and an immense swimming pool skirting a five-story high island topped by an elegant villa. This project also awaits council review.

At the southern end of the island, Wailea enjoyed a healthy stream of business in 1984. The resort had hoped to turn in a banner year, but, occupancies plunged after the UAL strike. Fortunately, business has returned quickly, and higher than expected sales of Wailea's single-family lots with price tags in the quarter-million dollar range have helped to soften the strike's blow.

Further down the road, Seibu Hawaii's 310-unit Maui Prince Hotel is continuing construction after being stalled by the recent construction worker strikes. Originally slated for completion later this year, opening of the luxury hotel has been delayed to mid-1986. About 250 to 300 employees are planned to service the hotel and its three restaurants and manicured Japanese landscaping. Next on the construction agenda are a tennis complex and the expansion of its golf course. The master plan for Seibu's property calls for a second hotel and the construction of apartments and condominiums to bring the total resort to 3,500 to 4,000 units.

On Maui's eastern tip, the Hotel Hana-Maui is undergoing a $16-million, 16-month renovation. During the project, the 80-room hotel will remain open. The work will remedy the termite damage to the cottages, and is expected to improve the hotel's sagging occupancy rate, which was less than 55 percent last year.

SUGAR

Sugar production on Maui, showing the damage caused by last year's drought was down 18 percent through May. This is an additional blow to the industry, which last year saw its farm sugar value fall 1.2 percent despite increased production. Maui's employment in the sugar industry is also continuing its decline after peaking in 1981 at 1,450 field jobs, and may fall below 1,200 by the close of this year.

At Alexander & Baldwin's Hawaiian Commercial & Sugar Company, Maui's largest sugar plantation at 36,000

acres, total production is expected to fall 4 percent from last year to 214,000 tons. Crop yields are remaining at about 13 tons of sugar per acre, due to the extensive use of drip irrigation.

Second in size is Amfac's Pioneer Mill in Lahaina, where 55,000 tons of sugar was produced last year at a record 14.5 tons per acre. Because of the drought, yields are expected to drop to about 13 tons per acre. Employment at the plantation is down to 422, with further declines in manpower requirements expected through job combination and mechanization of cane cutting for replanting.

At C. Brewer's Wailuku Sugar Company, sugar production is expected to retreat 3 percent to 20,600 tons, with yields forecast at about 12.5 tons per acre. The company is continuing its cost-cutting efforts by encouraging early retirement, using layoffs during slow periods, and minimizing the expensive pumping of water for its fields.

Wailuku Sugar is planning to convert another 140 acres of its sugarcane land to macadamia orchards, boosting its macadamia acreage above 1,800 acres. About 130,000 pounds of nuts will be harvested this year, a year ahead of schedule. The company has high hopes for its macadamia orchards, in part because the nuts have a low moisture content and a 97-percent rate of useble kernels.

PINEAPPLE

Pineapple production in Maui County is of great importance, accounting for about 70 percent of the state's pineapple production. Pineapple sales fell 6 percent in 1984 after a record $45 million in 1983.

Pineapple is also a major crop on each of the county's main islands. Last year, an unusually large fresh pineapple supply depressed farm prices. On Molokai, Del Monte's 1,000-acre pineapple plantation harvested only the top 40 percent of its crop for the fresh fruit market because the remainder was uneconomical to process for juice. Current forecasts are that 7,500 tons of fruit will be harvested this year, stimulating a gain in employment from 80 in 1984 to 120 in 1985. The harvest is expected to increase in future years as newly planted fields mature, eventually doubling output to 15,000 tons annually.

On the Island of Maui, Maui Land & Pineapple Company enjoyed a 6-percent gain up to $74 million in revenues last year from sales of its private-label canned pineapple and restaurant and institutional sales. The 1984 drought will crimp production this year despite the company's great investment in irrigation and water distribution systems. This, combined with heightened foreign competition, has produced lowered production and sales targets for 1985.

Castle & Cooke's Lanai plantation is expecting lower pineapple production this year compared to 1984 because of past reductions in pine acreage. Now under new ownership, Castle & Cooke has announced its intention to expand Lanai's pineapple and tourism sectors. The company wants to build a pineapple juice concentrate plant on the island, and has prepared plans for a 400-room hotel in the Manele-Hulopoe Bay area, as well as a 250-room hotel in Koele, near Lanai City. The plans, which were submitted to the Maui Planning Commission in early 1984, also call for residential construction in both areas.

DIVERSIFIED AGRICULTURE

Many of Maui's vegetable farmers have been getting better prices for their produce thanks to the Maui Farmers Exchange, a marketing cooperative. Now primarily involved in the marketing of head cabbage, head lettuce, ginger, broccoli, and cauliflowers, the Exchange handles farm sales of about $5 million per year, spread about equally between the markets of Honolulu and Maui.

In its operation, the cooperative collects the planting and production plans of its member farmers, then meets with the major food wholesalers to set agreeable volume and price agreements for the various types of produce. In this way, the organization helps farmers receive a fair price for their product, while helping wholesalers obtain a steady supply of quality produce. Farmers are also persuaded to time their production levels according to market conditions.

Up at Kula, Controlled Environmental Farming's high-tech greenhouse operation anticipates growing half a million pounds of produce this year, the majority in tomatoes with the rest comprising cucumbers and head lettuce. New greenhouses on Oahu and Kauai are to be established by the end of this year. To market the abundant harvest, CEF plans to experiment with its own Maui retail outlets.

The Protea Cooperative of Hawaii is anticipating an increase in sales of 30 percent in 1985, the best since 1981. To complement its heavy winter and spring protea sales, the Protea Cooperative has begun to market tropical plants to become a "one-stop" source for ornamental plants and maintain a consistent level of sales year-round.

Hawaiian Foliage and Landscaping at Maalaea is also enjoying a good year with sales expected to reach $3.6 million this year.

An aquaculture functional plan that sets forth the goals, constraints, and possible revenues from such operations is scheduled for release later this year from Maui County. The county is also forging ahead on a baitfish project at Maalaea. When fully operational next summer, it will be the only baitfish supplier in the state, and may help to attract West Coast albacore fishing vessels to port in Maui to restock their supply.

CONSTRUCTION AND REAL ESTATE

Construction-put-in-place through May is running at $22 million, down 14 percent from 1984. The bright spot this year is in government construction contracts, which through May are up 90 percent from 1984 to $2 million. The big boost has come from county construction projects, which skyrocketed 150 percent above 1984. Under construction now is the new $8 million police station in Wailuku, and a new state circuit court building. Also, a third water well jointly funded by Wailea, Seibu, C. Brewer, and the county to serve the Kihei-Makena area is nearing completion.

Lackluster activity in the building industry seems to have extended to the real estate market. This year, the condominium market has been down 2 and 3 percent in the number and price of resales, respectively. Even the single-family market is now showing signs of price weakening in resales this year, down a percentage point through May at $153,333. What condominium construction is still occurring seems to show an emphasis on units that are smaller than the 2- and 3-bedroom units built in years past.

The county is continuing work on several affordable housing projects, with the 88-unit Luana Gardens in Kahului, the 71 lots at Hale Noho in Napili, and the 207-lot subdivision named Skill Village in Paia still under construction.

TRANSPORTATION

Work on the long-awaited expansion of Kahului Airport is slated for this October beginning with the relocation of the commuter terminal and airfield. The major work, however, will begin next year with the construction of new aircraft parking areas and a new terminal building. The

1985 Legislature appropriated $34 million in construction money for the new facility, which should better accommodate the flood of visitors from the recently inaugurated direct flights to the mainland.

A new airstrip for West Maui at Mahinahina is also moving ahead, and is under review by the Maui County Council. Action on the Hawaiian Airlines proposal may come by the end of this summer. If approved and constructed by 1986 as planned, the facility is expected to accommodate 372,000 passengers the first year of operation, increasing to 750,000 passengers by 1995. The airstrip would help to ease the traffic bottleneck between West Maui and Kahului, and also assist West Maui resorts in reaching their full potential.

HIGH TECHNOLOGY INDUSTRIES

The Kihei Research and Technology Park advanced another step with its inclusion in the recently passed Kihei Community Plan. Tenants for two buildings of the park have tentatively been identified, and groundbreaking is hoped to begin at the end of the year.

Meanwhile, a "fast-track" subdivision and building permit ordinance for the Kihei park is under review by the Maui County Council. The ordinance proposes strict pollution and other controls on the type and operation of firms locating in the park. In turn, the ordinance would assure interested firms that county action would be taken on their application within 90 days.

Up at Haleakala Crater, the U.S. Air Force's Maui Optical Station is continuing its research relating to the Reagan Strategic Defense Initiative or "Star Wars" plan. The station made recent headlines by bouncing its laser off a mirror held in the window of the orbiting space shuttle. It is also reportedly embarking on a joint project with Kauai's Barking Sands Missile Range to bounce the laser off rockets fired from Kauai.

At the University of Hawaii's Haleakala observatory, measurements of the distance from the earth to the moon are now accurate to within 2 centimeters. This astounding level of precision by the world's only operating laser lunar ranging facility will enable the monitoring of tectonic plate movements in the earth, and provide for the tracking of satellites with unprecedented accuracy.

Maui Electric Company (MECO) is studying the feasibility of constructing an energy grid connecting Maui, Molokai, and Lanai by an undersea power cable. Such a grid could cut energy costs on Molokai and Lanai, as well as make any future development of geothermal resources at Ulupalakua more attractive. Meanwhile, geothermal emissions are being monitored as part of the exploration of the Ulupalakua geothermal subzone.

At the sugar plantations where MECO obtains 10 percent of its electricity requirements, work is underway to increase the use of sugarcane waste materials to power steam-driven electrical generators. Co-generation equipment that could improve power plant efficiency and generate steam for use in pineapple canning is also under study at Maui Pine. In wind energy, MECO's 340-kwh wind turbine at Maalaea is back in operation after undergoing repairs in February. A wind farm with a capacity of up to 10 megawatts is expected to be in place mauka of Kapalua by the end of the year. Finally, wind energy to pump water for agriculture and for energy storage in reservoirs is also under investigation by MECO.

Maui County Statistics

	Unit	Period	1980	1981	1982	1983	1984	Jan.-May 1985	% change Jan.-May 1985/1984	% change Annual 1984/1983
Population, Resident	number	July 1	71,600	74,200	76,900	79,600	83,300	n.a.	n.a.	4.6
Per Capita Personal Income	dollars	total	9,144	9,778	10,598	10,963	n.a.	n.a.	n.a.	n.a.
Civilian Labor Force	number	mo. avg.	36,750	39,150	42,200	44,100	43,900	44,100	1.4	−0.5
Employment	number	mo. avg.	34,850	36,800	38,850	40,650	41,200	41,850	3.0	1.4
Unemployment	number	mo. avg.	1,900	2,350	3,350	3,450	2,700	2,250	−21.1	−21.7
Unemployment Rate	percent	mo. avg.	5.2	6.0	7.9	7.9	6.8	5.1	−21.5	−13.9
Total Job Count[1]	number	mo. avg.	34,050	35,350	36,850	38,150	38,900	39,150	6.4	2.0
Gross Business Receipts	mil. $	total	1,104.3	1,165.9	1,203.4	1,376.2	1,615.9	741.7	4.1	17.4
State Tax Collections[2]	thous. $	total	56,897	57,582	52,850	68,217	76,573	36,973	22.4	12.2
Visitor Expenditures	mil. $	total	400.6	429.4	540.3	792.9	1,078.3	n.a.	n.a.	36.0
Estimated Westbound Visitors	thous.	total	1,378.2	1,389.9	1,550.1	1,645.7	1,854.7	813.3	3.5	12.7
Hotel Inventory	number	June	10,483	11,245	12,278	12,680	13,336	14,152	7.7[3]	5.2
Hotel Occupancy	percent	mo. avg.	66.2	70.3	73.9	75.2	80.5	85.9	0.0	7.0
Private Permits	thous. $	total	253,689	147,813	90,702	91,249	59,841	n.a.	n.a.	−34.4
Residential Permits	thous. $	total	215,209	118,802	35,771	38,814	40,887	n.a.	n.a.	5.3
Non-Residential Permits	thous. $	total	38,480	29,011	54,931	52,435	18,954	n.a.	n.a.	−63.9
Public Contracts Awarded	thous. $	total	17,886	12,886	45 790	29,943	26,759	20,730	90.0	−10.6
Real Estate Resales										
Single-Family	number	total	189	148	103	185	201	102	18.6	8.6
Average Price	dollars	cum. avg.	169,191	181,889	134,86	155,095	175,494	153,333	−0.8	13.2
Condominium	number	total	372	240	282	381	386	169	−2.3	1.3
Average Price	dollars	cum. avg.	160,000	166,832	153,414	151,169	141,763	137,292	−2.9	−6.2
Sugar Production, raw sugar [4]	thous. tons	total	266	255	235	287	351	85	−18.4	22.3
Pineapple Sales, Fresh Equivalent	thous. $	total	36,404	39,915	38,602	45,099	42,200	n.a.	n.a.	−6.4
Diversified Crops and Livestock	thous. $	total	22,098	24,875	25,443	28,870	30,500	n.a.	n.a.	5.6
Diversified Crops[4]	thous. $	total	12,014	13,270	14,085	16,503	18,000	n.a.	n.a.	9.1
Livestock	thous. $	total	10,084	11,605	11,358	12,367	12,500	n.a.	n.a.	1.1

[1]Refers to number of jobs rather than number of persons employed. Persons with more than one job are counted more than once.

[2]Totals do not include real property taxes.

[3]Compares February, 1985 to February, 1984.

[4]Total crops excluding sugar and pineapple.

n.a. = not available

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